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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,438	06/01/2001	Larry A. Coldren	G&C 122.2-US-U1	1911

22462 7590 08/13/2003

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[REDACTED] EXAMINER

ZAHN, JEFFREY N

ART UNIT	PAPER NUMBER
	2828

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A/A

<b>Office Action Summary</b>	Applicant No.	Applicant(s)
	09/872,438	COLDREN ET AL.
	Examiner	Art Unit
	Jeffrey N Zahn	2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 June 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13 and 27-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-13 and 27-41 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***RCE acknowledgment***

The RCE submitted to the USPTO on 26 June 2003 has been entered in the Application file as Paper No. 13. Accordingly, the Amendment of Paper No. 11, originally submitted to the USPTO on 27 May 2003 has been entered as Paper No. 11 in the Application file. The claims as provided in Paper No. 11 are the basis for this Office Action.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-13 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Regarding Claims 1-13 and 27-41, it is unclear what the Applicant is claiming. Specifically, the following:

- 1) the cooperative relationship of the gain section as related to the other structural limitations (i.e. the phase section; waveguide section mirror, cavity, etc.);
- 2) the cooperative relationships of the cavity to the other structure of the claimed device;
- 3) how the claimed device functions to produce a tunable laser;
- 4) what includes the SCH? (the waveguide or cavity);
- 5) what elements comprise the cavity?

6) "a gain section for creating" is indefinite; how is it created?

7) "wherein the front mirror, back mirror and the phase section are adjusted" is indefinite because it is unclear/vague about how these structural elements are adjusted; and

8) "of the group comprising" is an improper Markush Claim because the term "comprising" is a term used to represent an open group of elements. The Applicant needs to use the term "consisting of" if he wishes to claim in a Markush Group fashion. MPEP 2173.05(h).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 9, 10, 13 and 27-39, 35-36 and 39-41 are rejected under 35**

**U.S.C. 102(b) as being anticipated by Coldren (US 4,896,325).**

Regarding Claim 1-3, 13, 27-29, and 39-41 Coldren discloses a tunable laser (abstract) comprising:

A waveguide(Fig. 5; between right and left mirrors) for guiding a light beam including a separate-confinement-heterostructure having an energy bandgap that is sufficiently low to provide gain to the light beam (col. 6, line 37- col. 7, line 64);

a front mirror (40) defining an end of a cavity in the waveguide;

a back mirror (42) defining an opposite end of the cavity in the waveguide;

the cavity in the waveguide including:

a gain section (36) for creating a light beam and for providing gain for the light beam;

a phase section (32) for controlling the light beam around a center frequency of the bandwidth;

wherein the front mirror, the back mirror and the phase section are adjusted such that the light beam exits the cavity (abstract).

Note: "wherein additional gain from the light beam is provided by at least one of the group comprising the phase section, the front mirror and the back mirror in order to partially compensate for losses associated with tuning" is an indefinite claimed description of the claimed invention for the reasons discussed above regarding 35 USC 112, para. 2. Accordingly, this "wherein clause" has not been given any patentable weight for purposes of this examination.

Regarding Claims 9-10 and 35-36, these claims have added limitations consistent with a method or process claim. Accordingly, the added further method limitations are not given any patentable weight for purposes of examining the product claims they depend from.

#### ***Response to Arguments***

Applicant's arguments with respect to Claims 1-13 and 27 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey N Zahn whose telephone number is 703-305-3443. The examiner can normally be reached on M-F: 8:30-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
Jeffrey Zahn  
August 10, 2003

  
QUYEN LEUNG  
PRIMARY EXAMINER  
  
for  
SPE Paul Ip